

IN THE CLAIMS:

Please add new claim 33 and amend claims 1 and 26 as follows:

1. (Currently Amended) A device for measuring the properties of high-gloss or metallic finishes in particular of vehicle bodies, having:

at least one first radiation means having at least one first radiation source which directs substantially collimated radiation at a predetermined angle towards a measurement surface;

a plurality of second radiation means each having at least one second radiation source, each of which projects ~~substantially~~ non-collimated radiation onto the measurement surface, wherein said plurality of second radiation means are spatially distributed to achieve a uniformly non-collimated radiation onto said measurement surface; and

at least one radiation detector means which captures at least a portion of the radiation reflected and/or diffused off the measurement surface and emits at least one measurement signal which is characteristic of the reflected and/or diffused radiation,

wherein said radiation detector means comprises a device for detecting incident radiation dependent on a wavelength of said radiation.

2. (Previously Presented) The device according to claim 1,
wherein an angle formed by a first geometrical connecting axis
extending from the at least one radiation detector means to a geometrical center of
the measurement surface and a projection of said first geometrical connecting axis
to the measurement surface is variable.

3. (Previously Presented) The device according to claim 1,
wherein a distance from said first radiation means to the
measurement surface is between 1 cm and 30 cm, preferred between 2 cm and 20
cm, particularly preferred between 2 cm and 7 cm.

4. (Previously Presented) The device according to claim 1,
wherein each said second radiation means comprises at least one
radiation diffuser means.

5. (Cancelled)

6. (Previously Presented) The device according to claim 4,
wherein said at least one radiation diffuser means is selected from a
group of radiation diffuser means comprising radiation diffuser disks, frosted
glass disks and diffuser films.

7. (Previously Presented) The device according to claim 4,
wherein a diffusor surface of each said radiation diffusor means is mounted at a specified diffusor surface angle relative to the measurement surface, said angle defined by a geometrical connecting axis extending from a longitudinal axis of each said second radiation means to a geometrical center of the measurement surface, said specified diffusor surface angle being between 0 degrees and 90 degrees, preferred between 30 degrees and 90 degrees, particularly preferred between 75 degrees and 90 degrees.

8. (Cancelled)

9. (Previously Presented) The device according to claim 1,
wherein said at least one first radiation means and said plurality of second radiation means are positioned in a housing above the measurement surface.

10. (Previously Presented) The device according to claim 9,
wherein a space inside the housing has substantially radiation-absorbing properties.

11. (Previously Presented) The device according to claim 9,
wherein said housing is substantially configured radiation-proof,
preferably light-proof, such that substantially no radiation can enter the housing
other than such radiation as diffused and/or reflected off the measurement surface.

12. (Previously Presented) The device according to claim 1,
wherein said second radiation means are positioned on a geometrical
spherical surface or a geometrical surface of a rotational ellipsoid above the
measurement surface.

13. (Previously Presented) The device according to claim 1,
wherein at least one radiation source is variable in at least one
radiation parameter selected from a group comprising radiation intensity, radiation
wavelength, direction of radiation polarization, and temporal radiation intensity
modulation.

14. (Previously Presented) The device according to claim 1,
wherein at least two of said first and second radiation sources are
variable independent of each other in at least one radiation parameter.

15. (Previously Presented) The device according to claim 1, wherein said first and second radiation sources are selected from a group of radiation sources comprising thermal radiation sources, in particular but not exclusively light bulbs, halogen light bulbs, coherent and non-coherent semiconductor radiation sources, gas discharge radiation sources and lasers.

16. (Previously Presented) The device according to claim 1, wherein at least two of said first and second radiation sources and/or radiation detector means have different spectral radiation characteristics.

17. (Previously Presented) The device according to claim 1, wherein the radiation from said first radiation means is collimated by at least one radiation directing means.

18. (Previously Presented) The device according to claim 17, wherein said at least one radiation directing means comprises at least one radiation directing component selected from a group of radiation directing components comprising lens components, micro lens components, micro lens arrays, diffracting components, reflector components, in particular but not exclusively parabolic reflectors, grating components, volume grating components and holographic components.

19. (Previously Presented) The device according to claim 1,
wherein said first radiation means comprises at least one diaphragm
means, preferably but not limited to apertured diaphragms positioned in a path of
radiation.

20. (Previously Presented) The device according to claim 1,
wherein said device is movable relative the measurement surface
such that a distance between the first and second radiation means and the
measurement surface remains substantially constant.

21. (Previously Presented) The device according to claim 1,
wherein at least one travel measurement means is provided which
emits at least one measurement signal corresponding to a traveled distance of the
travel measurement means from the device to the measurement surface.

22. (Previously Presented) The device according to claim 21,
further including a housing;

wherein said at least one travel measurement means is positioned
inside and/or outside the housing.

23. (Previously Presented) The device according to claim 1, wherein at least one coating-thickness measurement means is provided for determining a coating thickness of the measurement surface to be examined comprising at least one coating thickness sensor which emits a measurement signal representative of the coating thickness to be determined.

24. (Previously Presented) The device according to claim 23, further including a housing;

wherein said at least one coating-thickness measurement means is positioned inside and/or outside the housing.

25. (Previously Presented) The device according to claim 1, further including a travel measurement means and a coating-thickness measurement means;

wherein at least one processor means and one memory means is provided which allow an allocation of the measurement signals of the radiation detector means and/or the measurement signals of the travel measurement means and/or the coating-thickness measurement means to specified locations, in particular but not exclusively to the same location on the measurement surfaces.

26. (Currently Amended) A method for measuring the properties of high-gloss or metallic finishes in particular of vehicle bodies, ~~in particular~~ using a device according to claim 1,

~~comprising~~ wherein, said at least one first radiation means directs collimated radiation at a predetermined angle towards the measurement surface, and wherein

said plurality of second radiation means project at least a portion of the non-collimated radiation ~~from said at least one second radiation source~~ onto the measurement surface;

and wherein said at least one radiation detector means captures at least a portion of the radiation reflected and/or diffused off the measurement surface and emits at least one measurement signal which is characteristic ~~of~~ for the ~~reflected incident radiation~~ and which is dependent on a wavelength of said radiation;

and wherein at least one control means is provided ~~for controlling~~ which controls the capture of at least one ~~the measurement signals~~ signal of the radiation detector means; and

and wherein at least one output means is provided ~~for outputting at~~ which outputs at least one measurement result.

27. (Previously Presented) The method according to claim 26, wherein at least one processor means is provided for evaluating the measurement signals and deriving therefrom at least one parameter which characterizes the properties of the measurement surface and which can be output at least on one output means.

28. (Previously Presented) The method according to claim 26, further including a travel measurement means and a coating-thickness measurement means;

wherein at least one control means is provided for controlling the capture of the measurement signals from the radiation detector means and/or the travel measurement means and/or the coating-thickness measurement means and stores same in at least one provided memory means.

29. (Previously Presented) The method according to claim 26, wherein the radiation from said second radiation means is substantially reflected and/or diffused only once off the measurement surface and/or off a surface substantially parallel thereto.

30. (Previously Presented) The device according to claim 1, wherein a space above the measurement surface has substantially radiation-absorbing properties.

31. (Previously Presented) The device according to claim 1, wherein an angle formed by a second geometrical connecting axis extending from the at least one first radiation means to the geometrical center of the measurement surface and a projection of said second connecting axis onto the measurement surface, is variable.

32. (Previously Presented) The device according to claim 7, wherein a spatial orientation and position of said diffusor surface of said radiation diffusor means is variable relative to said geometrical connecting axis from said second radiation means to said geometrical center of the measurement surface.

33. (New) A device for measuring the properties of high-gloss or metallic finishes in particular of vehicle bodies, having:

a housing positioned above a measurement surface;

at least one first radiation means positioned in said housing and having at least one first radiation source which directs substantially collimated radiation at a predetermined angle towards the measurement surface;

a plurality of second radiation means positioned in said housing and having at least one second radiation source, each of which projects substantially non-collimated radiation onto the measurement surface, said second radiation means being equally distributed on a geometrical spherical surface or a geometrical surface of a rotational ellipsoid; and

at least one radiation detector means which captures at least a portion of the radiation reflected and/or diffused off the measurement surface and emits at least one measurement signal which is characteristic of the reflected and/or diffused radiation,

wherein said radiation detector means comprises a device for detecting incident radiation dependent on a wavelength of said radiation.